

REMARKS

This Amendment is fully responsive to the non-final Office Action dated March 30, 2010, issued in connection with the above-identified application. A one-month extension of time is requested. Claims 1 and 3-13 are pending in the present application. With this Amendment, claims 1 and 3-13 have been amended. The amendments to claim 1 and 3-13 are merely to place the claims in better form for U.S. patent practice. The amendments were not made to address the prior art rejection to the claims. Accordingly, no new matter has been introduced. Favorable reconsideration is respectfully requested.

In the Office Action, claims 10-13 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. The Applicants assert that the arguments provided herein are believed to be sufficient to overcome the rejection to the base claim (i.e., claim 1) from which claims 10-13 depend. Accordingly, withdrawal of the objection to claims 10-13 is respectfully requested.

In the Office Action, claims 1 and 3-5 have been rejected under 35 U.S.C. 103(a) as being anticipated by Matsumoto (U.S. Patent No. 4,984,003, hereafter “Matsumoto”) in view of Cushman (U.S. Patent No. 4,299,464, hereafter “Cushman”).

The Applicants traverse the above rejection because the cited prior art fails to disclose or suggest at least all the features recited in independent claim 1. Independent claim 1 recites *inter alia* the following features:

“[a] blade driving device for use in cameras, the blade driving device comprising:...

a control means for drive-controlling the electromagnetic actuator and applying opening energization and closing energization to the electromagnetic actuator so as to allow the mechanical blade to perform an opening motion to move into an opened state when turning on an electric-power supply in order to set a photographable standby state in which a dynamic image and a still image are photographable, and to *first perform an opening motion when a releasing operation is performed, and then to perform a closing motion for completion of a photograph.*” (Emphasis added).

The present invention (as recited in claim 1) provides clear advantages and unexpected results over the cited prior art. That is, the control means of the blade driving device applies opening energization so as to allow a mechanical blade to perform an opening motion again when a releasing operation is performed (e.g., even if the mechanical blade to be kept in the

opened state in a photographable standby state has been closed without permission by an impulsive force from the outside). Thus, the mechanical blade is invariably positioned in the opened state immediately before photography (immediately after releasing operation) so that photography can be reliably performed.

In the Office Action, the Examiner relies on the combination of Matsumoto and Cushman for disclosing or suggesting all the features recited in independent claim 1. In particular, the Examiner relies on col. 7, lines 48-60 and col. 8, lines 13-44 of Matsumoto; and the abstract and col. 6, lines 25-68 of Cushman for disclosing or suggesting all the features of the control means of the present invention (as recited in independent claim 1).

Matsumoto in col. 7, lines 48-60 discloses that a shutter must be kept opened at all times prior to the exposure for enabling the operator to view the scene to be photographed; and after focusing is completed, the shutter is closed upon actuation of release means of the camera and then the shutter blade is opened and again closed for effecting exposure.

Matsumoto in col. 8, lines 13-44 discloses that starting from the time point t_0 at which the release means of the camera is actuated by the operator, the closing current i_2' is first applied to the coil 7. The shutter blade 1, which has been opened for focusing purposes, begins to close at the time point t_1 and then is fully closed at the time point t_2 .

As noted above in Matsumoto, upon actuation of the release means the shutter is always moved in a closing motion until fully closed. Conversely, in the present invention (as recited in independent claim 1), the control means of blade driving device first performs an opening motion when a releasing operation is performed, and then performs a closing motion for completion of a photograph, which is clearly distinguishable from Matsumoto. The Examiner acknowledges this difference between the present invention (as recited in independent claim 1) and Matsumoto (i.e., see Office Action, pg. 3).

The abstract of Cushman discloses the use of a delay period that is initiated as part of the control of a camera to delay opening of a shutter. As described in Cushman, the duration of the delay is such that an exposure is not likely to be made until a refractory period after the evoked involuntary blink of a subject (i.e., to be photographed) has been completed. At the end of the delay period, the shutter is allowed to open.

Additionally, the relevant portion of Cushman in col. 6, lines 25-68 similarly discloses use of a light source that induces involuntary blinks in at least 60% of subjects located at a range

of a camera, e.g. 3 to 9 feet. A timer 9 measures the elapsed time between depression of the body release 3 and the generation of the flash from the light source. After the lens has been properly focused, a shutter 53 is eventually released to allow the exposure to be made. Accordingly, Cushman in col. 6, lines 25-68 also discloses applying a delay period after a release operation is performed.

In the present invention (as recited in independent claim 1), the control means applies energization to an electromagnetic actuator as follows:

(a) first, when turning on an electric power supply in order to set a photographable standby state in which a dynamic image and a still image are photographable, the control means applies opening energization so as to allow the blade to perform an opening motion to move into an opened state; and

(b) *next, when a releasing operation is performed, the control means first applies opening energization so as to allow the blade to perform an opening motion again and then applies closing energization so as to allow the blade to perform a closing motion to move into a closed state for completion of photography.*

As noted above, Cushman merely discloses the use of a delay period that is initiated as part of the control of a camera when a release operation is performed. In other words, Cushman discloses first performing a delay, which actually prevents the opening of the shutter, when a releasing operation is performed. Conversely, in the present invention (as recited in independent claim 1), the control means of blade driving device first performs an opening motion when a releasing operation is performed, and then performs a closing motion for completion of a photograph.

Based on the above discussion, even if one of ordinary skill in the art were to combine the teachings of Matsumoto and Cushman, the combination still fails to disclose or suggest a control means of a camera that performs the sequential operation of: 1) performing a release operation; 2) applying an opening energization operation for opening a mechanical shutter; and 3) applying a closing energization operation for closing the mechanical shutter.

That is, Matsumoto only discloses a closing operation of a shutter after a release operation is performed, and Cushman actually discloses preventing the opening of a shutter after a release operation is performed by applying a delay.

Accordingly, no combination of Matsumoto and Cushman would result in, or otherwise render obvious, independent claim 1. Likewise, no combination of Matsumoto and Cushman would result in, or otherwise render obvious, claims 3-5 at least by virtue of their dependencies from independent claim 1.

In the Office Action, claims 6-9 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto in view of Cushman, and further in view of Ikeda (Japanese Publication No. 2001-183718, hereafter "Ikeda").

Claims 6-9 depend (directly or indirectly) from independent claim 1. As noted above, Matsumoto and Cushman fail to disclose or suggest all the features of independent claim 1. Moreover, Ikeda fails to overcome the deficiencies noted above in Matsumoto and Cushman.

Specifically, Ikeda discloses a shutter device for use in a digital camera, wherein as shown in Fig. 8, the control means controls the blades so as to perform an opening motion only before a releasing operation is performed. In other words, in the standby state before a releasing operation is performed, the control means applies opening energization so as to allow the blade to perform an opening motion to move into an opened state at all times, and when a releasing operation is performed, the control means applies only closing energization so as to allow the blade to perform a closing motion to move into a closed state for completion of photography.

Thus, Ikeda does not disclose or suggest that when a releasing operation is performed, the control means applies opening energization so as to allow the blade to perform an opening motion again and then applies closing energization so as to allow the blade to perform a closing motion to move into a closed state for completion of photography (i.e., as recited in independent claim 1).

Accordingly, no combination of Matsumoto, Cushman and Ikeda would result in, or otherwise render obvious, claims 6-9 at least by virtue of their dependencies from independent claim 1.

In light of the above, the Applicants submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass the present application to issue.

Additionally, the Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues in the present application.

Respectfully submitted,

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July 28, 2010